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Mechanical Engineering
Melbourne School of Engineering

Research Engineer in Neuroprosthetics

In line with the special measure H103/2014 provided for under section 12 of the Equal Opportunity Act 2010 (VIC), the Melbourne School of Engineering strongly encourages applications from suitably qualified female candidates.

POSITION NO	0040060
CLASSIFICATION	Level A
SALARY	\$64,863 - \$88,016 p.a. (PhD entry Level A.6 \$81,998)
SUPERANNUATION	Employer contribution of 9.5%
EMPLOYMENT TYPE	Full time (fixed term) position available for 3 years Fixed term contract type: Measures To Provide Secure Employment The Melbourne School of Engineering is strongly committed to supporting diversity and flexibility in the workplace. Applications for part-time or other flexible working arrangements will be welcomed and will be fully considered subject to meeting the inherent requirements of the position.
OTHER BENEFITS	http://about.unimelb.edu.au/careers/working/benefits
CURRENT OCCUPANT	New
HOW TO APPLY	Online applications are preferred. Go to http://about.unimelb.edu.au/careers , under 'Job Search and Job Alerts', select the relevant option ('Current Staff' or 'Prospective Staff'), then find the position by title or number.
CONTACT FOR ENQUIRIES ONLY	Associate Professor Denny Oetomo Tel: +61 3 8344 6795 Email doetomo@unimelb.edu.au <i>Please do not send your application to these contacts</i>

For information about working for the University of Melbourne, visit our websites:
hr.unimelb.edu.au/careers
joining.unimelb.edu.au

Position Summary

The University of Melbourne, in a collaborative project between the Melbourne School of Engineering and the Faculty of Medicine, Dentistry and Health Sciences (Department of Surgery at St Vincent's), has identified a strategic need to strengthen the intelligent system integration capabilities for the purpose of translational research in medical robotics, specifically in the area of Advanced Limb Reconstruction through robotics strategies. The opportunity now exists to appoint a high calibre research engineer in this role through the financial support of the Valma Angliss Trust Fund. With this in mind, the successful candidate will work with academics on the technological aspects of advanced limb reconstruction (ALR) problem, in the design, build and commissioning of various prototypes to be fitted on subjects. The main responsibility is the *establishment of the engineering capability* to produce high end and cutting edge neuroprosthetics for amputees: both at the research prototypical level (where experimental strategies can be quickly and conveniently implemented and experimented upon) and at the product level (where custom designs can be quickly realised to fit any patients who would wear the devices on a day to day basis). The secondary responsibility is the day-to-day coordination of the ALR research and engineering team activities. The position is available for 3 years, with a 6 month probation period. The candidate will work across the Melbourne Schools of Engineering (MSE) and Faculty of Medicine, Dentistry and Health Sciences (MDHS), as well as across the national and international collaborative network of the project.

The University plan seeks to increase the diversity of the workforce and the representation of women in areas they have been traditionally under-represented. Consistent with this, the School is seeking to increase the representation of women in the academic workforce across engineering disciplines. Under a Special Measure, under Section 12 (1) of the Equal Opportunity Act 2010 (Vic) the School is seeking to lift the representation of women from 20% in 2014 to at least 25% over the next 5 years, and strongly encourages applications from suitably qualified female candidates.

1. Selection Criteria

1.1 ESSENTIAL

- 1.1.1 A master degree in a relevant engineering discipline, such as but not limited to: mechanical, electrical or biomedical engineering;
- 1.1.2 Experience in mechatronic system integration: mechanical and electronic design, build of, and software development for, novel devices and systems;
- 1.1.3 Excellent verbal and written communication skills, including the capacity to explain subject material plainly and effectively;
- 1.1.4 Demonstrated ability to work collegially and collaboratively with students and staff from a range of cultural backgrounds and at all levels;
- 1.1.5 Excellent organizational and project management skills, including the ability to develop clear plans and timelines, to satisfy the delivery of outcomes at the required milestones, to manage own time, to keep systematic record of data and research outcomes for archival and dissemination purposes and to help coordinate research and development activities of the project.

1.2 DESIRABLE

- 1.2.1 A research higher degree, such as Master by research or a PhD degree in a relevant engineering field;
- 1.2.2 Previous experience in the development of biomedical devices;
- 1.2.3 Previous experience in the development, signal processing, or clinical engineering element of neuroprosthetic devices;
- 1.2.4 Previous experience in the development of medical devices testing protocol and management of ethics approval applications as well as adherence to ethics protocol within the testing procedures;
- 1.2.5 Previous experience in successfully liaising with academic researchers, students, technicians and industry in developing mechatronic design specification;
- 1.2.6 Experience in project budget management.

2. Key Responsibilities

2.1 TRANSLATIONAL RESEARCH – ADVANCEMENT OF THE DISCIPLINE

- 2.1.1 Build and sustain an advanced limb reconstruction engineering capability in the collaborative environment of MSE and MDHS, allowing students and staff to achieve high quality research outcomes;
- 2.1.2 Support the research program of the project with design and build capability;
- 2.1.3 Actively seek and support the development of the translational research team, including supplying the team with the key outcomes to enable further funding for the team to be sought and obtained;
- 2.1.4 Maintain accurate records of data and outcomes of the project.

2.2 ENGAGEMENT

- 2.2.1 Develop collaborative opportunities with Australian and international medical industry;
- 2.2.2 Foster excellent working relationship with project donors, industry contacts and medical collaborators and experimental subjects / patients.

2.3 SERVICE AND LEADERSHIP

- 2.4.1 Undertake administrative duties within the mentioned projects;
- 2.4.2 Undertake training and professional development opportunities as appropriate;
- 2.4.3 Perform other duties as required by the Supervisor or the Head of the Department;
- 2.4.4 Perform any duties involving patients and their families with tact, sensitivity and respect for their situations and confidentiality;
- 2.4.5 Undertake Occupational Health and Safety (OH&S) and Environmental Health and Safety (EH&S) responsibilities as outlined in Section 4.

3. Other Information

3.1 DEPARTMENT OF MECHANICAL ENGINEERING

<http://www.mech.unimelb.edu.au/>

The Department of Mechanical Engineering is one of the largest in Australia. It provides teaching into subjects in the three-year undergraduate degrees of Commerce and Science, which can be followed by a two-year professional Master of Engineering.

The Departmental philosophy is to attract and retain the highest quality staff available in order to maintain a vigorous research effort. Our strategic plan is to address the most urgent contemporary problems of our rapidly developing industrial society, with investigations into biomechanical engineering and fluids and thermal sciences.

3.2 MELBOURNE SCHOOL OF ENGINEERING

<http://www.eng.unimelb.edu.au/>

The Melbourne School of Engineering is one of Australia's leading Engineering Schools and aims to be the school of choice for the highest performing students and research staff in Australia and within the Time Higher Education Supplement top ten Schools of Engineering internationally by 2020.

3.3 THE UNIVERSITY OF MELBOURNE

The University of Melbourne is a leading international university with a tradition of excellence in teaching and research. With outstanding performance in international rankings, Melbourne is at the forefront of higher education in the Asia-Pacific region and the world. The University of Melbourne is consistently ranked among the world's top universities. Further information about our reputation and global ranking is available at <http://futurestudents.unimelb.edu.au/explore/why-choose-melbourne/reputation-rankings>.

Established in 1853, shortly after the founding of Melbourne, the University is located just a few minutes from the centre of this global city. The main Parkville campus is recognised as the hub of Australia's premier knowledge precinct comprising eight hospitals, many leading research institutes and a wide range of knowledge-based industries.

The University employs people of outstanding calibre and offers a unique environment where staff are valued and rewarded. Further information about working at The University of Melbourne is available at <http://about.unimelb.edu.au/careers>.

3.4 GROWING ESTEEM, THE MELBOURNE CURRICULUM AND RESEARCH AT MELBOURNE: ENSURING EXCELLENCE AND IMPACT TO 2025

- ▶ Growing Esteem describes Melbourne's strategy to achieve its aspiration to be a public-spirited and internationally-engaged institution, highly regarded for making distinctive contributions to society in research and research training, learning and teaching, and engagement. <http://about.unimelb.edu.au/strategy-and-leadership>
- ▶ The University is at the forefront of Australia's changing higher education system and offers a distinctive model of education known collectively as the Melbourne Curriculum. The new educational model, designed for an outstanding experience for all students, is based on six broad undergraduate programs followed by a graduate professional degree, research higher degree or entry directly into employment. The emphasis on academic

breadth as well as disciplinary depth in the new degrees ensures that graduates will have the capacity to succeed in a world where knowledge boundaries are shifting and reforming to create new frontiers and challenges. In moving to the new model, the University is also aligning itself with the best of emerging European and Asian practice and well-established North American traditions.

- ▶ The University's global aspirations seek to make significant contributions to major social, economic and environmental challenges. Accordingly, the University's research strategy *Research at Melbourne: Ensuring Excellence and Impact to 2025* aspires to a significant advancement in the excellence and impact of its research outputs.

<http://research.unimelb.edu.au/index.html#home>

The strategy recognises that as a public-spirited, research-intensive institution of the future, the University must strive to make a tangible impact in Australia and the world, working across disciplinary and sectoral boundaries and building deeper and more substantive engagement with industry, collaborators and partners. While cultivating the fundamental enabling disciplines through investigator-driven research, the University has adopted three grand challenges aspiring to solve some of the most difficult problems facing our world in the next century. These Grand Challenges include:

Understanding our place and purpose – The place and purpose grand challenge centres on understanding all aspects of our national identity, with a focus on Australia's 'place' in the Asia-Pacific region and the world, and on our 'purpose' or mission to improve all dimensions of the human condition through our research.

Fostering health and wellbeing – The health and wellbeing grand challenge focuses on building the scale and breadth of our capabilities in population and global health; on harnessing our contribution to the 'convergence revolution' of biomedical and health research, bringing together the life sciences, engineering and the physical sciences; and on addressing the physical, mental and social aspects of wellbeing by looking beyond the traditional boundaries of biomedicine.

Supporting sustainability and resilience – The sustainability and resilience grand challenge addresses the critical issues of climate change, water and food security, sustainable energy and designing resilient cities and regions. In addition to the technical aspects, this grand challenge considers the physical and social functioning of cities, connecting physical phenomena with lessons from our past, and the implications of the technical solutions for economies, living patterns and behaviours.

Essential to tackling these challenges, an outstanding faculty, high performing students, wide collaboration including internationally and deep partnerships with external parties form central components of Research at Melbourne: Ensuring Excellence and Impact to 2025.

3.5 EQUITY AND DIVERSITY

Another key priority for the University is access and equity. The University of Melbourne is strongly committed to an admissions policy that takes the best students, regardless of financial and other disadvantage. An Access, Equity and Diversity Policy Statement, included in the University Plan, reflects this priority.

The University is committed to equal opportunity in education, employment and welfare for staff and students. Students are selected on merit and staff are selected and promoted on merit.

3.6 GOVERNANCE

The Vice Chancellor is the Chief Executive Officer of the University and responsible to Council for the good management of the University.

Comprehensive information about the University of Melbourne and its governance structure is available at <http://www.unimelb.edu.au/unisec/governance.html>.

4. *Occupational Health and Safety (OHS)*

All staff are required to take reasonable care for their own health and safety and that of other personnel who may be affected by their conduct.

OHS responsibilities applicable to positions are published at:

<http://safety.unimelb.edu.au/topics/responsibilities/>

These include general staff responsibilities and those additional responsibilities that apply for Managers and Supervisors and other Personnel.